

Setting targets with interval data envelopment analysis models via Wang Method

ABSTRACT

Data envelopment analysis (DEA) is a mathematical programming for evaluating the relative efficiency of decision making units (DMUs). The first DEA model (CCR model) assumed for exact data, later some authors introduced the applications of DEA which the data was imprecise. In imprecise data envelopment analysis (IDEA) the data can be ordinal, interval and fuzzy. Data envelopment analysis also can be used for the future programming of organizations and the response of the different policies, which is related to the target setting and resource allocation. The existing target model that conveys performance based targets in line with the policy making scenarios was defined for exact data. In this paper we improved the model for imprecise data such as fuzzy, ordinal and interval data. To deal with imprecise data we first established an interval DEA model. We used one of the methods to convert fuzzy and ordinal data into the interval data. A numerical experiment is used to illustrate the application to our interval model.

Keyword: Imprecise data; Interval data envelopment analysis model; Target setting